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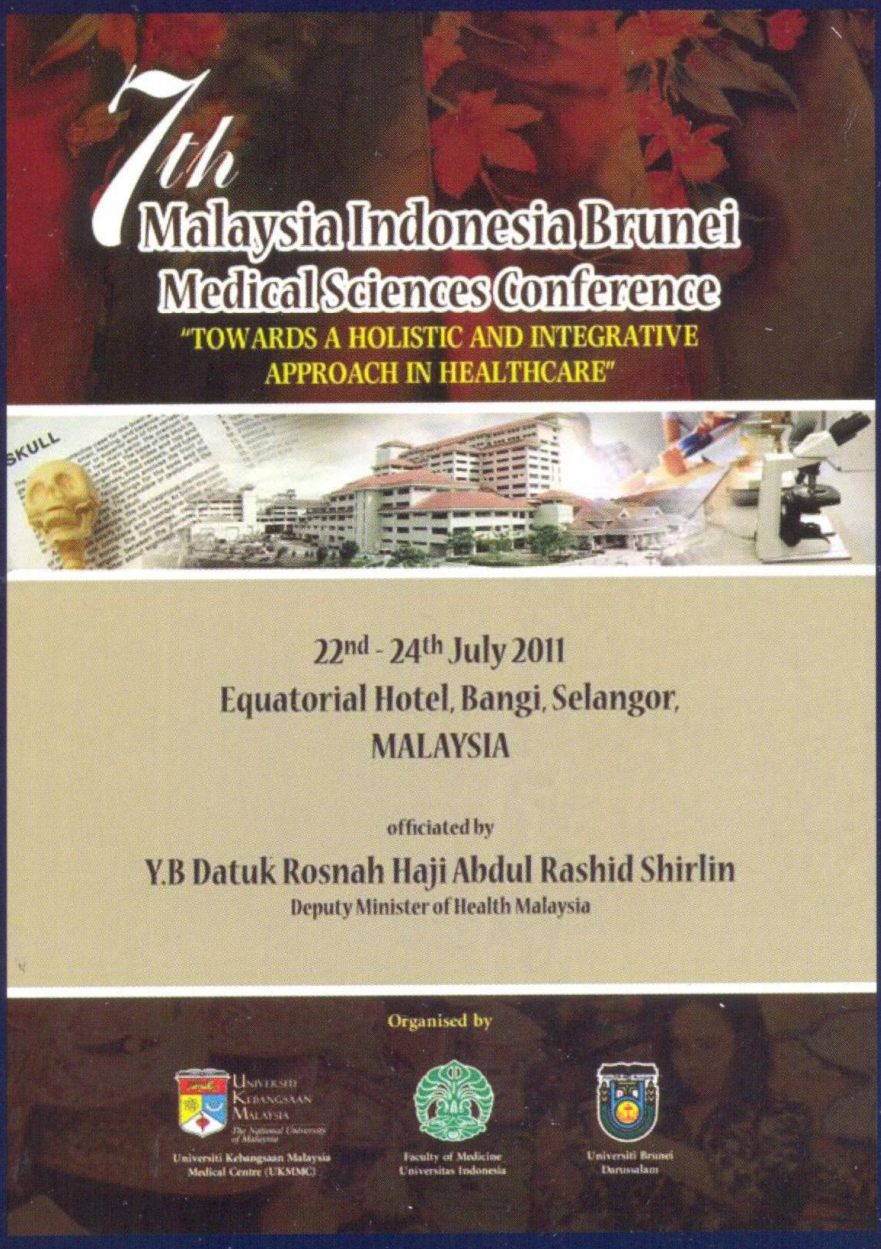

SONOGRAPHIC COMPARISON BETWEEN AMNIOTIC FLUID INDEX AND FETAL ABDOMINAL CIRCUMFERENCES IN GESTATIONAL DIABETES MELLITUS ON DIETARY MODIFICATION ALONE AND INSULIN THERAPY

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Background:
This study was conducted to compare the amniotic fluid index (AFI) and fetal abdominal circumference (AC) measurements between pregnant women with gestational diabetes mellitus (GDM) on dietary modification alone and those with insulin therapy.

Materials and Methods:
All pregnant women with GDM (confirmed by Modified Glucose Tolerance Test) attending antenatal clinics and eligible for the study were recruited. Ultrasound scan was utilized to determine AFI and AC measurements at 36 weeks period of gestation. These parameters and maternal blood glucose control were analysed with regards to dietary modification alone and those women with insulin therapy.

Results:
A total 15 patients were recruited into each arm. There was no significant different between AFI in GDM on dietary modification versus insulin (16.01±5.2cm in diet modification versus 18.28±4.5cm in insulin therapy, $p>0.05$). Fetal AC also did not show any statistical different between the two groups (dietary modification 329.4±20.9 mm^2 and insulin therapy 332.87±14.11mm^2, $p>0.05$). HbA1c levels in the women showed no strong correlation between AFI in dietary modification group (r:-0.054, $p>0.05$) and AFI in insulin therapy (r:-0.086, $p>0.05$). There was also no strong correlation between HbA1C and AC in dietary modification (r:-0.167, $p>0.05$) and insulin therapy group (r:-0.086, $p>0.05$). Similarly, maternal age and AFI showed no strong correlation in dietary modification (r:-0.0129, $p>0.05$) and also in insulin therapy group (r:-0.194, $p>0.05$). There was neither strong correlation between maternal age with AC in dietary modification (r:-0.088, $p>0.05$) nor in insulin therapy group (r: 0.107, $p>0.05$).

Conclusion:
Treatment with dietary modification alone or insulin therapy had no effect on amniotic fluid index and fetal abdominal circumference in women with GDM. Neither HbA1c levels nor maternal age have strong correlation with regards to AFI and AC in both methods of treatment.

Keywords:
GDM, amniotic fluid index, abdominal circumference, fetal, HbA1c